Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

probability, that maize is indigenous to the Rocky Mountains, or anywhere so far north, but that it is a tropical production. He had once supposed that this form might be the original state of Corn, but he was now convinced that it was an induced or monstrous form, with a tendency to become proliferous or paniculate, instead of producing simple spikes.

Professor C. C. Felton communicated to the Academy an extended memoir by Mr. Sophocles, of Harvard University, entitled, " A Glossary of Later and Byzantine Greek."

He also gave some particulars of his recent visit to Greece, in the summer season. As to the climate, the thermometer in June did not rise above 75° F., except for two or three days toward the end of the month, when it indicated 83° and 84°, which was the highest he noticed. He had observed a remarkable progress since his first visit in 1853-54, in spite of the occupation of the country by foreign armies and the prevalence of cholera, in industrial pursuits, art, literature, and especially in education, not only in Greece proper, but wherever the Hellenic race was found in Turkey and Asia Minor.

Four hundred and fifty-sixth meeting.

November 10, 1858. — STATED MEETING.

The VICE-PRESIDENT in the chair.

The Corresponding Secretary read letters from the Royal Academy of Sciences of Madrid, and the Natural History Society of Freiburg in the Briesgau. Also a letter from William Sharswood, Esq., of Philadelphia, in relation to the probable action of phosphoric acid upon non-acid calculi in the bladder.

Professor Joseph Lovering, in behalf of the committee to whom was referred the communication of Dr. I. I. Hayes, dated July 19, 1858, requesting "the counsel and the favorable influence of the Academy" in his proposed attempt to reach the north pole of the earth, read the following report: —

"The announcement of an open sea within the Arctic Ocean was made in these words by Dr. Kane, after the return of his man Morton from a sledge excursion in June, 1854: 'It must have been an imposing sight, as he stood at this termination of his journey, looking out upon the great waste of waters before him. "Not a speck of ice," to use his own words, "could be seen." There, from a height of four hundred and eighty feet, which commanded a horizon of almost forty miles, his ears were gladdened by the novel music of dashing waves; and a surf, breaking in among the rocks at his feet, stayed his further progress.' *

"The committee have quoted the eloquent language of Dr. Kane, without stopping to inquire how much of this glowing description is to be referred to the enthusiasm of an explorer, and how much is to be interpreted by a cool criticism at a distance from the scene of operations.

"The question which it is expected may be settled by another Arctic expedition is, whether the great ice-barrier, which, on some meridians, and at some seasons, encroaches even upon the 48th parallel of latitude, and which invests an area of six millions of square miles, extends northwards to the pole; or whether, beyond the limits of extreme Arctic navigation, which leaves an unexplored surface of three millions of square miles, there lies imprisoned in a zone of ice the unfrozen waters of a polar sea. The conclusion of Dr. Kane, that the latter was the true side of the alternative, was anticipated by that of a Russian expedition on sledges in 1810, made upon an opposite meridian to that which Kane travelled, and by that of Parry in 1827, upon a third meridian.

"The impression favorable to an open and navigable polar sea, which was obtained on these occasions, based as it was upon a very circumscribed experience, and prevented by stress of circumstances from being pursued to verification, might seem to fall considerably short of a rational belief, were it not, in the opinion of Dr. Hayes and others, corroborated by various kinds of circumstantial evidence, as follows: —

"1. By the presence of bird life, mostly marine, on what would be the icy shores of this suspected sea, and which migrates northward in spring.

---

* Arctic Explorations in the Years 1853-54-55, by Dr. Elisha K. Kane, Vol. I. p. 305.

"2. By the milder temperature at extreme latitudes inferred from the character of the isothermals where best determined, which, pursued by analogy to unvisited latitudes, give the same temperature to the high latitude of 90° as to the Arctic Circle.

"3. By the migrations of human life, the traditions of the Esquimaux pointing to the North as the cradle of their race. If the fact is established that races deteriorate as they remove from the parallel of their nativity, then the tradition of the degenerate Esquimaux is confirmed by their own degeneracy.

"4. By the temperature of the Arctic waters, which was observed by William Morton and recorded by Kane as at 36° Fahr. in June, 1854, or two degrees above the temperature of the air at the same time; the water flowing from the north, and no ice in sight. Whether this water is frozen in winter is not, however, known.

"5. By the rise of the temperature in winter when the north-wind sets in, which is also damp; as observed by Baron von Wrangel and Sir Edward Parry. The cause of this elevated temperature in the Arctic waters, Dr. Hayes thinks, may be found in the influence of the Gulf Stream, flowing northward as an under-current to equalize the effects of the superficial flow southward. This direction in the flow of the deep water is inferred from the drift of the deeply-laden icebergs northward, while the lighter ones move southward. Moreover, what compensation for astronomical exposure may not the drainage of five millions of square miles from the northern water-sheds of Europe, Asia, and America introduce into the temperature of the great Arctic basin?

"If these mild waters, embosomed for centuries in a zone of ice, are to be reached by civilized man, Dr. Hayes thinks that the best invitation to success comes, not from a purely nautical expedition along the easterly coast of Greenland, but from more westerly meridians, to be traversed by boats and sledges.

"The committee do not feel called upon to examine singly or collectively the force of these various arguments in favor of an open polar sea. It is certain, however, that human curiosity will not be satisfied until the mystery on this subject is cleared up by new expeditions. To postpone these expeditions to another generation, when much of the personal experience already gained will have been forgotten, and when the services of those best qualified to conduct them can no longer be commanded, would not be a wise economy.

" With these few hints on the views and objects of Dr. Hayes in his appeal to the Academy for scientific aid and sympathy, your committee conclude with the recommendation of the following resolutions: —

" *Resolved,* That the American Academy of Arts and Sciences appreciate highly the laudable ambition of Dr. I. I. Hayes, to continue, and if possible consummate, the arduous exploration for which he has already sacrificed much, and is willing to sacrifice still more; and that the Academy tender him their sympathy and influence.

" *Resolved,* That a committee of seven be appointed, from the members of the Academy, to co-operate with Dr. Hayes, and to render him such scientific counsel as may make his new effort, if undertaken, secure the greatest advantages to science and humanity.

"JOSEPH LOVERING,
HENRY L. EUSTIS, *Committee.*"
JOSEPH WINLOCK,

On motion of Professor Felton, the resolutions were adopted unanimously; and the subject was again referred to a committee, consisting of Professor Joseph Lovering, Professor Henry L. Eustis, Professor Joseph Winlock, Thomas G. Cary, Esq., B. A. Gould, Esq., Professor Theophilus Parsons, and Edward Wigglesworth, Esq.

Professor H. L. Eustis gave an account of Barlow's new method of calculating the strength of girders.

Professor C. C. Felton exhibited a collection of rare Roman coins which he had recently received.

Professor E. N. Horsford exhibited the Tyrian dye, or murexide in a crystalline form, and explained the new mode of obtaining it.

On motion of Professor Lovering, one hundred dollars was added to the appropriation for publication during the current year, to replace a sum which had been paid out from that appropriation by a vote of the Academy at the stated meeting in August last.

The following gentlemen were elected Fellows of the Academy: —

Dr. Luther V. Bell, of Charlestown, in Class II. Section 4.

Rev. Dr. Chandler Robbins, of Boston, in Class III. Section 2.

Professor Benjamin Peirce, of Cambridge, in Class I. Section 1.

Four hundred and fifty-seventh meeting.

December 14, 1858. — MONTHLY MEETING.

The Academy met at the house of Chief Justice Shaw.

The PRESIDENT in the chair.

The Corresponding Secretary read letters from the Rev. Chandler Robbins and Dr. Luther V. Bell, accepting their election as Fellows of the Academy.

Also from the K. L. C. Akademie der Naturforscher, Breslau, November 20th, 1857, and January 20th, 1858; Académie Royale des Sciences à Amsterdam, December 10th, 1857; K. Sächs. Bergakademie, Freiburg, December 13th, 1857; Royal Geographical Society, London, December 30th, 1857; Observatoire Physique Centrale, St. Petersburg, June 1st, 1858; Royal Society of Sciences of Upsal, January 8th, 1858; K. Sächs. Gesellschaft der Wissenschaften, January 6th, 1858; Naturhistorischer Verein der Preussischen Rheinlande und Westphalens, January 11th, 1858; Société Imperiale des Naturalistes de Moscow, March 10th, 1858; Académie Royale des Sciences, Turin, May 15th, 1858; and the Royal Society of Sciences, Göttingen, May 26th, 1858, acknowledging the receipt of the Academy's publications; — from the Gesellschaft zur Beförderung der Naturwissenschaften zu Freiburg im Breisgau, June 25th, 1858, acknowledging the same, and presenting its own publications; — from the Oberhessische Gesellschaft für Natur- und Heilkunde, April 6th, 1858, and the Société Imperiale d'Agriculture, &c., August 8th, 1858, presenting their publications; — from the Société d'Agriculture, Sciences, et Arts de la Sarthe, March 30th, 1858, presenting various publications and asking an exchange; — and from M. de Haar, of Holland, presenting a mathematical memoir, and asking a critical opinion of its merits.